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Draft Environmental Impact Statement

Como Forest Health Project

Darby Ranger District, Bitterroot National Forest
Ravalli County, Montana

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Draft
Environmental Impact Statement
Ravalli County, Montana

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Abstract: The Como Forest Health Draft Environmental Impact Statement discloses the environmental effects of implementing four alternatives to achieve the purpose and need for the Como Forest Health project. The Como Forest Health project is located on the Darby Ranger District, Bitterroot National Forest between Lake Como and Lost Horse Canyon. The purposes of the project are to 1) reduce potential mountain pine beetle-caused mortality in large diameter ponderosa pine, 2) reduce fuel loads and maintain historical fire return intervals, 3) improve overall forest resilience to insects and disease, and 4) maintain the visual integrity of the larger Lake Como recreation area. Two alternatives to the Proposed Action were developed based on management area direction for the project area and public comments. The four alternatives analyzed are Alternative 1: the No Action Alternative, Alternative 2: the Proposed Action, Alternative 3: forest management without the construction of new roads or trails, and Alternative 4: forest management with emphasis on maintaining wildlife habitat diversity and old growth, and visual quality in retention and partial retention areas. The resources most affected by the project are old growth and old growth associated wildlife, scenery, and soils.

Reviewers should provide the Forest Service with their comments during the review period of the draft environmental impact statement. The review period is determined by the posting of the availability notice in the Federal Register. The comments will enable the Forest Service to analyze and respond to the comments at one time and to use information acquired in the preparation of the final environmental impact statement, thus avoiding undue delay in the decision-making process. Reviewers have an obligation to structure their participation in the National Environmental Policy Act process so that it is meaningful and alerts the agency to the reviewers' position and contentions (Vermont Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519, 553 (1978)). Environmental objections that could have been raised at the draft stage may be waived if not raised until after completion of the final environmental impact statement (City of Angoon v. Hodel (9th Circuit, I986) and Wisconsin Heritages, Inc. v. Harris, 490 F. Supp. 1334, 1338 (E.D. Wis. 1980)). Comments on the draft environmental impact statement should be specific to the Como Forest Health project area, the resource conditions in the project area, and the merits of the alternatives discussed (40 CFR 1503.3).

Summary

The Bitterroot National Forest proposes the Como Forest Health project to reduce the forest susceptibility to mountain pine beetle-caused mortality, reduce fuel loads and restore historical fire return intervals, improve forest resilience to insects and disease, and maintain the visual integrity of the larger Lake Como recreation area. The area affected by the proposal lies between the north side of Lake Como and Lost Horse Creek. More than half of the project area is in Forest Plan Management Area 2 with the management goal of optimizing elk winter range. The other Management Areas are 3a, 3b, and 3c, which emphasize recreation, wildlife and fish habitat, and have visual quality objectives of retention and partial retention. The Forest Plan designates timber harvest as an acceptable practice in all of these management areas. Eight percent of the Como Forest Health project area is in Management Area 1 with the goal of emphasizing timber management.

Three alternatives to the proposed action are analyzed, including the No Action alternative. In Alternative 1, the No Action alternative, no management activities in the Proposed Action would occur. Forest densities and fuel levels would remain at their current levels and would increase at natural rates. The visual quality would not change except through natural processes. Alternative 2 is the Proposed Action in which 3,314 acres would be treated through commercial harvest, non-commercial thinning, and prescribed fire. 6.3 miles of system road, temporary road, and tracked line-machine trail would need to be constructed to access proposed timber harvest units. Alternative 3 was designed to harvest timber without the construction of any roads or tracked line-machine trails. In this alternative, 3,159 acres would be treated through commercial harvest, non-commercial thinning, and prescribed fire. Alternative 4 was designed to retain wildlife habitat features and maintain the visual quality objectives. In this alternative, harvest in old growth forest and in areas with the visual quality objective of retention would be limited and modified to meet the objectives. Big-game hiding and thermal cover would be retained at current levels. In this alternative, 2,107 acres would be treated through commercial harvest, non-commercial thinning, and prescribed fire. 2.3 miles of system road, temporary road, and tracked line-machine trail would need to be constructed to access proposed timber harvest units. 1,476 acres of commercial timber would be harvested under Alternative 2, 1,292 would be harvested under Alternative 3, and 1,115 acres would be harvested under Alternative 4.

Alternative 2 reduces mountain pine beetle susceptibility on 1,393 acres, Alternative 3 reduces it on 1,373 acres and on 1,352 acres in Alternative 4. Alternative 3 does not treat any susceptible units east of the Bitterroot Irrigation District Road, which may compromise treatments in the seed production area and adjacent areas. Mountain pine beetle susceptibility is not reduced under Alternative 1.

Alternative 2 has the potential to produce 11,845 cubic feet (ccf) of volume and a present net value (PNV) of $47,000. Alternative 3 has the potential to produce 10,745 ccf and a PNV of $255,000, whereas Alternative 4 has the potential to produce 9,838 ccf and a PNV of $181,000.

The main resources at issue in this project are old growth and habitat for old growth associated species, scenery, soil disturbance, and levels of tree mortality in some prescribed fire units.

Old growth and old growth associated wildlife:

Though many large, old trees exist in the project area, most of the forest in the project area does not have enough large diameter trees older than 170 years to meet the old growth definition. Forest Plan standards for old growth forest are not met in any management areas and 3rd order drainages except management area 2 in two of the four 3rd order drainages in the project area. Treating old

growth forest is allowed in the Forest Plan if old growth characteristics can be retained after logging. There is risk associated with treating old growth and being able to retain the old growth characteristics. Some research supports treating ponderosa pine old growth and retaining the old growth characteristics and there is a limited record of successful application. However, retaining old growth characteristics in mixed conifer old growth following treatment is more uncertain. The less fire resistant trees that make up mixed conifer stands, and higher stand densities would make it difficult to maintain the multi-layered canopy and appropriate levels of snags and woody debris after treatment.

Of the 345 acres of old growth forest in the project area, Alternative 2 treats 187 acres, Alternative 3 treats 143 acres, and Alternative 4 treats 7 acres associated with an aspen improvement treatment.

Canada Lynx

Canada lynx is listed as a threatened species under the Endangered Species Act. The Bitterroot National Forest is designated secondary/peripheral lynx habitat, which most likely provides habitat for lynx during dispersal between populations or subpopulations. The habitat located in the Como Forest Health project area is connected to 1,150 acres of lynx habitat.

There are three acres of mapped Canada lynx habitat in the Como Forest Health project area. This area of mapped lynx habitat is part of a larger area of habitat in the Selway-Bitterroot Roadless Area. This area is mixed conifer, multi-storied forest that is proposed for prescribed fire. Forest conditions in the three acres of mapped Canada lynx habitat are very similar to the rest of the forest in Burn Unit E. Burn Unit E is expected to burn at moderate to high severity. The burn has the potential to create a 2-mile gap on the ridge between areas of travel cover and reduce habitat connectivity. To contain the prescribed fire within Unit E, a two mile by 20 foot wide fuel break would be constructed on the western and northern boundary of the unit. This fuel break would traverse the three acres of mapped lynx habitat and create a corridor that would facilitate travel by lynx competitors, coyote, wolves, and bobcats.

Burn Unit E would not comply with standard VEG S6 or guideline VEG G4 of the Northern Rockies Lynx Management Direction. Standard VEG S6 is not met because the prescribed fire will reduce snowshoe hare habitat in a multi-story, mature or late successional forest outside of the Wildland Urban Interface and more than 200 feet from an administrative site. The purpose of the prescribed fire does not meet the exceptions such as research, genetic studies, or incidental removal during salvage harvest. Guideline VEG G4 is not met because the fire break on the ridge creates a corridor that facilitates snow compaction.

Unit E is burned in Alternatives 2 and 3 but not Alternatives 1 and 4.

Fisher

Fisher is a Region 1 sensitive species. Fisher have not been recorded in the project area, however, they have been trapped in Lost Horse Canyon on the north boundary of the project area. Fisher habitat in the project area connects habitat located in Rock Creek with habitat in Lost Horse Canyon. The Como Forest Health project area provides about 2,840 acres of resting/denning/foraging habitat (Alternative 1). There is enough habitat in the Como Forest Health project area to support three fisher. Commercial timber harvest and moderate to high severity prescribed fire would reduce canopy cover below 40% and reduce the functionality of the habitat for resting, denning, or foraging. Under Alternative 2, 943 acres of fisher resting/denning/foraging habitat would remain and 1,198 acres would remain under Alternative 3. Connections between areas of habitat would also be reduced. Under Alternative 4, 1,840 acres of resting/denning/foraging habitat would remain as well as connections between areas of habitat.

American marten

American marten is a Forest Plan management indicator species for the amount and distribution of old growth forest. The project area provides 1,080 acres of suitable habitat. Alternative 2 treats 595 acres of suitable habitat and most of the old growth forest. Alternative 3 treats 494 acres of suitable habitat and some of the old growth. Alternative 4 treats 49 acres of suitable habitat and seven acres of old growth. Commercial harvest and moderate to high severity prescribed fire would reduce canopy cover below 40% and would not support marten resting, denning, or foraging needs until canopy cover developed to greater than 40%. Alternative 4 would maintain the most suitable habitat in large, contiguous areas and there would be no change in habitat under Alternative 1.

Scenery

Alternatives 2 and 3 will not meet Forest Plan Visual Quality Objectives (VQOs). Under Alternative 2, Units 8, 9, 15, 16, 45, 46, and 47 would have long-term negative effects on immediate foregrounds of Lake Come recreation area, roads, trails, and the lake viewsheds. The VQO would be amended and reduced from retention to modification in these units for 10 years for the purpose of restoring forest health. Under Alternative 3, Unit 47 (5 acres) would not meet the retention VQO as seen from Lake Como. Alternatives 1 and 4 would meet the VQOs. However, there would be short-term (one growing season) effects from treatments in Alternative 4. Most of the proposed treatments are consistent with the Forest Plan. Application of design criteria would reduce the visual impacts.

Soil Disturbance

Nine units in Alternative 2 would exceed Region 1 soil quality standards (R1 SQS) for detrimental soil disturbance (DSD). The reason these units exceed R1 SQS is because they are small and the amount of roads, track line-machine trails required to access them. Under Alternative 3, Unit 50 exceeds R1 SQS because the unit is small and requires three landings of 0.25 acres each. If the number of landings can be reduced to two that total 0.5 acre, the unit would be within the standard. Under Alternative 4, 4 units exceed R1 SQS for the same reasons as stated for Alternative 2.

Prescribed fire and tree mortality

Certain levels of tree mortality are expected from prescribed fire based on the severity of the fire, fuel loads, and stand conditions. Units C and E are proposed as moderate burn severity and all other units are proposed as low severity burns. Under Alternatives 2, 3, and 4, we anticipate mortality levels would be appropriate to the proposed burn severity in Units A, C, and D because stand conditions are within the historical fire frequency. Under Alternatives 3 and 4, we would also anticipate tree mortality levels would be appropriate to the proposed severity in Units B2 and C2 because these units would have a non-commercial thin before they are burned.

We anticipate high levels of tree mortality in Units B, C2, E, E2, and H under Alternative 2 because their stocking and fuel loads are high and no treatment to remove some stocking or fuel before the fire is proposed. We also anticipate high levels of tree mortality in Units B, E, E2, and G in Alternative 3 for the same reasons.

Flammulated Owl

Flammulated owl is a Region 1 sensitive species associated with mature to old growth ponderosa pine/Douglas-fir forests at lower elevations. The Como Forest Health project area contains 3,009 acres of suitable flammulated owl habitat. Alternative 2 would treat 1,712 acres of suitable habitat, Alternative 3 would treat 1,764 acres, and Alternative 4 would treat 1,214 acres. Alternatives 2 and 3 treat old growth habitat, which may have some long-term benefits of providing quality nest trees. Alternative 4 treats very little old growth and would retain old growth forest conditions.

Burn units with potential to burn at moderate to high severity would reduce flammulated owl habitat would reduce nest sites and foraging opportunities. Units that are pre-treated and burn at low severity would have beneficial effects of improving nest sites and foraging conditions.

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Chapter 1. Purpose of and Need for Action

1.1 Document Structure

The Forest Service has prepared this Environmental Impact Statement in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Environmental Impact Statement discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four chapters:

- *Chapter 1. Purpose and Need for Action:* The chapter includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.
- *Chapter 2. Alternatives, including the Proposed Action:* This chapter provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.
- *Chapter 3. Affected Environment and Environmental Consequences*: This chapter describes the environmental effects of implementing the proposed action and other alternatives. This analysis is organized by resource area. The resources that are the basis for the proposed action are discussed first followed by the resources for which alternative proposals were developed or by degree of potential effect.
- *Chapter 4. Consultation and Coordination:* This chapter provides a list of preparers and agencies consulted during the development of the environmental impact statement.
- *Appendices:* The appendices provide more detailed information to support the analyses presented in the environmental impact statement.
- *Index:* The index provides page numbers by document topic.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Darby Ranger District in Darby, Montana.

1.2 Background

The Como Forest Health project area is directly north of the Lake Como Recreation Area. The Lake Como Recreation Area largely serves recreationists from Ravalli and Missoula counties in Montana and Lemhi County in Idaho. To a lesser extent, the Lake Como Recreation Area attracts visitors from across the United States. The recreation area provides a full complement of recreation opportunities and receives about 200,000 visitors annually. Recreation opportunities include: developed campgrounds, day use picnic areas, fishing, boating, and swimming in Lake Como, a horse camp area, rental cabin and pavilion, accessible nature trails, and access to the Selway-Bitterroot Wilderness. Other popular recreation activities in the area surrounding the Lake Como Recreation Area include student educational field trips, hiking and backpacking, viewing scenery, mountain bike and horseback riding, and cross-country skiing and ice fishing in the winter.

The Lake Como Recreation Area and surrounding forest experienced a growing mountain pine beetle infestation and increased ponderosa pine mortality. The recreation area was thinned in 2012 and 2013 to protect the larger diameter ponderosa pine from mountain pine beetle infestation and campground aesthetics, and remove the hazards of dead and dying trees from the most heavily used areas. Recent surveys (May 2013) in the Como Forest Health project area indicate the mountain pine beetle population may be stabilizing or declining. However, many ponderosa pine stands have densities above 80 ft2 BA (basal area, measured in ft^2/acre) and as such are still at risk of mountain pine beetle infestation and would support a population rebound (PF-SILV-003).

Portions of the forest in the Como Forest Health project area have been treated since 1906. Several areas have had multiple entries Densities and species composition are similar to historical conditions with ponderosa pine forests on the lower elevation, drier sites and Douglas-fir and mixed tree species forests growing on the moister and higher elevation sites. Tree growth since the last harvest treatments 20 -40 years ago has increased forest densities so they are susceptible to mountain pine beetle infestation. Treating the areas around the Lake Como Recreation Area will enhance the efficacy of treatment the recreation area received in 2012 and 2013 because more forest area would be resistant on a broader, landscape scale.

The large area of high density and large tree sizes increases physiological stress and the opportunity for extensive mortality caused by epidemics of insects and diseases (Fellin 1980; Monning and Byler 1992; Biondi 1996). The current outbreak of mountain pine beetle in the analysis area is a direct result of the uniformity and density of mature ponderosa pine. The lack of structural diversity in the project area affects all cover types. Field observations indicate high departures from reference conditions in the smaller size classes, especially in ponderosa pine. The seedling/sapling and pole size class are less common and almost nonexistent. There is a definite loss of multi-aged stands of seral tree species.

The mature ponderosa pine structure class is well represented in the project area relative to historic condition (Table 3.1-2). Though ponderosa pine remains a dominant cover type on the landscape, Douglas-fir is increasingly represented. Many of these stands are vulnerable to increasing insect infestations and disease rates because of the high stocking densities.

The Como Forest Health project area is adjacent to the Lake Como recreation area and surrounded by private lands on the west and parts of the north and south sides (Figure 1.3-1). The project area receives a lot of recreation use and the large ponderosa pines are characteristic features of the area and provide an aesthetic backdrop for the recreation activities.

1.3 Purpose and Need for Action

The purpose of the Como Forest Health project is to:

- Reduce potential mountain pine beetle-caused mortality in large diameter ponderosa pine
- Reduce fuel loads and maintain historical fire return intervals in the project area
- Improve forest resilience to mountain pine beetle, Douglas-fir beetle, and dwarf mistletoe
- Maintain the visual integrity of the larger Lake Como Recreation Area

This project is needed to inhibit the growth of mountain pine beetle populations by reducing the density of ponderosa pine forests. Reducing ponderosa pine forest density interferes with the mountain pine beetles' pheromone system that aggregates attacks and overcomes the trees' defense systems (Amman, G.D. and J.A. Logan 1998). Reducing pine forest density also reduces competition between trees for nutrients and water, which supports the trees' defense systems and reduces the quality of the mountain pine beetle brood rearing habitat (Oester, Paul T. et al. 2005, Vite and Wood 1962).

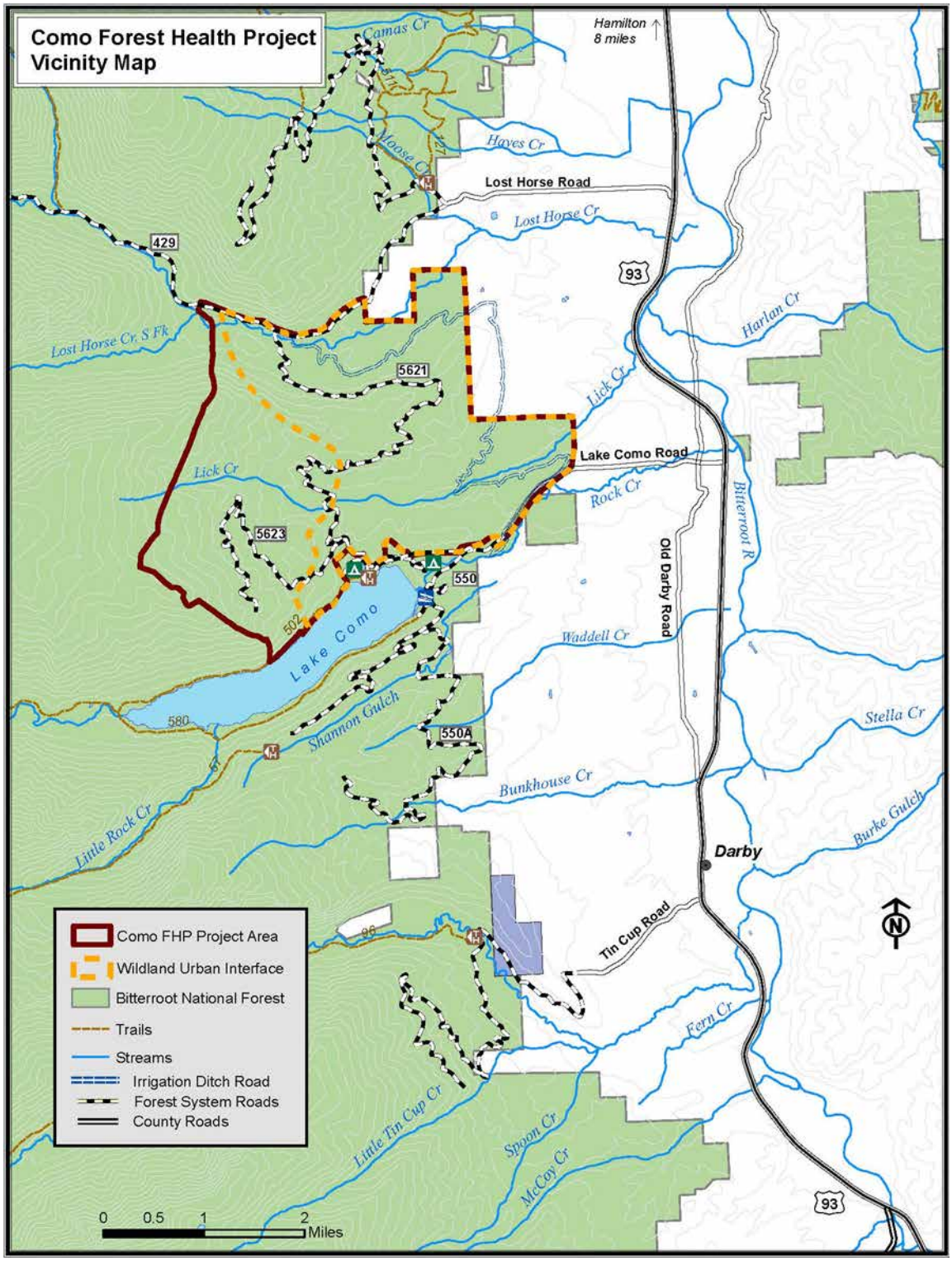

Figure 1.3-1: Vicinity Map for the Como Forest Health Project north of Darby, Montana.

Another benefit of thinning ponderosa pine forests is that the Forest Service selects the trees that remain in the forest. The Forest Service can retain the larger diameter pine by removing the smaller diameter trees that support the developing mountain pine beetle population, shade the stems of the larger pine trees, and compete with the larger diameter trees for nutrients and water. Mountain pine beetle populations build in the smaller diameter trees until there are enough beetles to

overcome the defense systems of the larger diameter stems (Carroll, A.L. et al. 2006). Removing the smaller diameter trees reduces competition for nutrients and water. More nutrients and water are available to the remaining trees to support growth and maintenance of their defense systems.

Increasing the space around trees interferes with the mountain pine beetles communication system and reduces their ability to aggregate attacks and overcome the trees defense systems. The micro-climate of the thinned forest tends to be less moderate than the closed forest and developing broods are subject to more extreme temperature fluctuations. These conditions reduce the brood development success (Bentz et al. 1991, Powell 1967).

Mountain pine beetle populations have been steadily increasing on the Bitterroot National Forest and in the project area (citation of FHP analyses). Reducing the density of the forest in this area will inhibit mountain pine beetle population growth and maintain the large diameter trees, especially ponderosa pine, as forest components.

Insects and diseases such as dwarf mistletoe and Douglas-fir bark beetle are active in the moister, mixed conifer stands. In some stands, these complexes are within natural parameters and help regulate stand conditions. In other stands, these complexes reduce stand vigor or inhibit achieving management objectives. Reducing stand density by removing susceptible trees or stand components that promote disease inoculum or insect population growth would improve forest resilience.

The historic fire return interval in the Como Forest Health project area is 5-25 years at the low elevations and 35-200 years at the mid- to upper elevations. The areas with high fire frequency typically burn at low severity, which creates open ponderosa pine and Douglas-fir forests with small openings of regeneration. The areas of low fire frequencies burn at mixed to high severity depending on the interval between fires. The forests tend to be moister and cooler and support mosaics of tree species and stand structures. Mixed tree species of grand fir, spruce, subalpine fir, lodgepole pine, and Douglas- fir occur in these forest depending on site conditions.

Most of the Como Forest Health project area was historically exposed to frequent, low severity fire. Currently, 30% of the project area would burn at low severity and 60% would burn at moderate severity (torching trees) (Figure 3.2-3). The remainder of the area would be susceptible to high severity fire (fire moving through the tree canopy). The area of high severity fire is likely within its historic fire return interval as it is at the higher elevations of the project area or along the moister habitats in the riparian areas. The large area of moderate severity fire is of concern because in the appropriate conditions it can become a high severity crown fire. Reducing fuels in the project area would reduce the potential fire severity to levels appropriate to the historic fire return interval. More area of low severity fire would maintain fire management options and public and firefighter safety.

The Visual Quality Objectives in the project area range from maximum modification to retention. The areas of retention are adjacent to Lake Como, Lake Como Road, and Lost Horse Road (NFSR 429) (Figure 1.3-2). Under the Retention VQO, human activities are not evident to the casual forest visitor. Most of the project area has a VQO of modification where human activity may dominate the characteristic landscape but must utilize naturally established form, line, color, and texture. It should appear as natural when viewed in middle ground or background. The need to improve forest resilience and maintain historic fire intervals needs to be balanced with maintaining the visual quality of the project area.

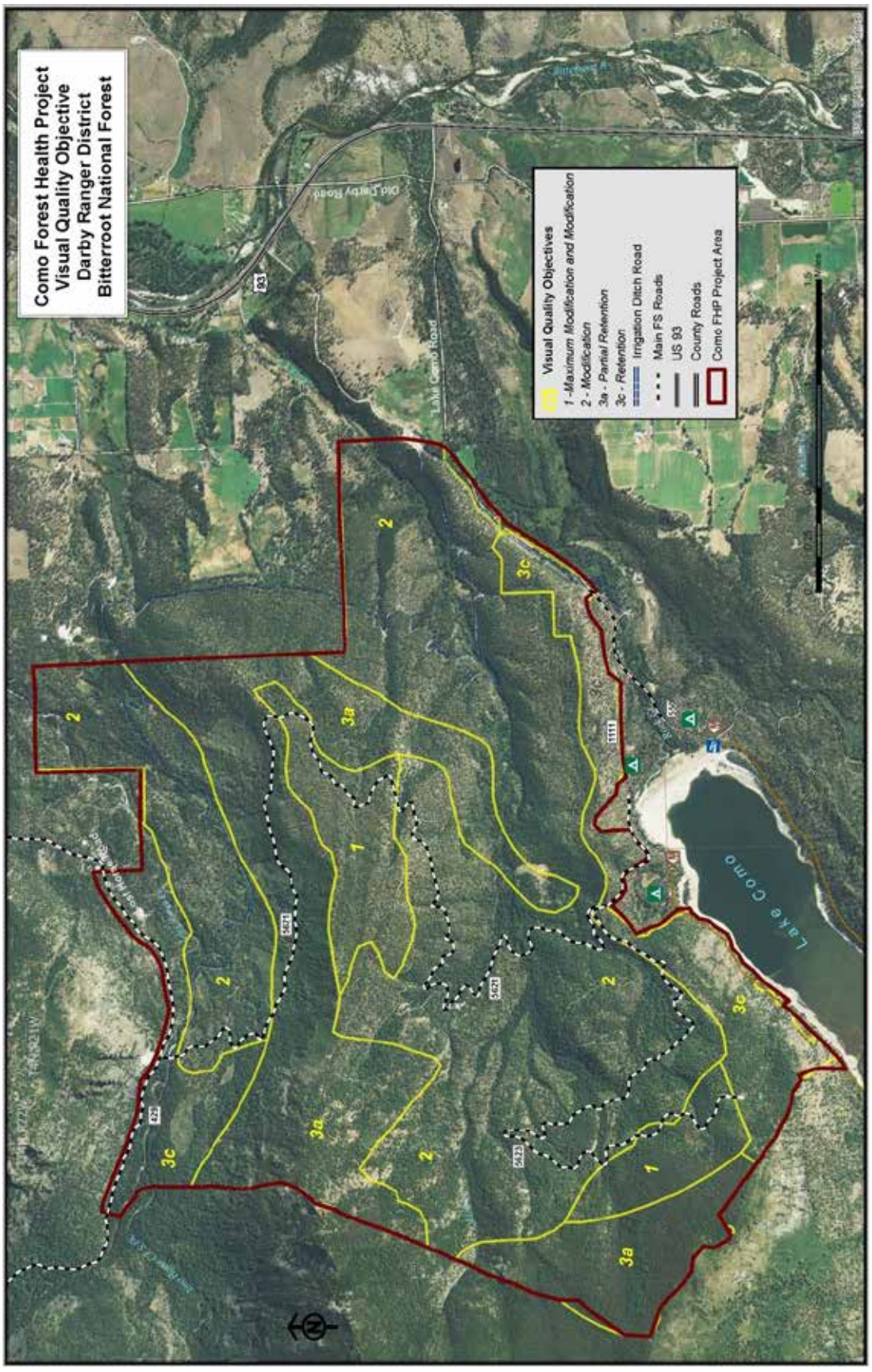

Figure 1.3-2: Visual Quality Objectives in the Como Forest Health Project Area.

The Como Forest Health project responds to the goals outlined in the Bitterroot National Forest Plan of managing timber, big-game forage and winter range habitat, old growth forest, roaded dispersed recreation, and maintaining sensitive viewsheds, and riparian habitat,(Forest Plan III-3, III-9, III-15, III-22). The Como Forest Health project moves the project area towards desired conditions described in the Forest Plan.

1.4 Proposed Action

The Forest Service proposes to:

- Harvest or thin ponderosa pine susceptible to mountain pine beetle infestations and Douglas-fir with high levels of disease, specifically dwarf mistletoe. Harvest or thinning would occur on about 2,190 acres.
- Prescribe burn treatment units following harvest or thinning. The full range of prescribed burning methods are proposed depending on site conditions following treatment. Prescribed burning methods include jackpot burning, pile burning, low severity broadcast burn.
- Prescribe burn outside of treatment units to reduce fuels or maintain the fire return interval. Most of the burn units outside of harvest treatment units would be low severity fire but some areas at higher elevations would be moderate severity.
- Connected actions to the activities proposed above would be the construction of national forest system roads, temporary roads, and tracked line-machine trails. We anticipate that three sections of national forest system road totaling 0.8 mile, 2.3 miles of temporary road, and 3.5 miles of tracked line-machine trail would be needed.
- Additionally, about six miles of undetermined roads exist in the project area and their status would be specified through this analysis. It appears that three miles of these roads are needed for hauling timber in this project and because of their locations, will likely be needed in future timber sales. We propose designating these roads for storage. The remaining 3 miles of roads would be designated “decommissioned.
- Aspen units would be released to enhance the presence of this tree species and the habitat it provides in the project area.

Because these proposals are adjacent to the well-used Lake Como recreation area, the proposed treatments will need to preserve the visual quality of the project area, especially within the viewshed of Lake Como.

1.5 Decision Framework

Given the purpose and need, the deciding official reviews the proposed action, the other alternatives, and the environmental consequences in order to make the following decisions:

- Whether to treat the forest in the project area at this time.
- Whether to build roads or tracked line-machine (TLM) trail to access treatment areas.
- Whether or which areas to prescribe burn outside of treatment units.
- Whether to amend the Bitterroot National Forest Plan must answer when making the final decision.

1.6 Public Involvement

The Notice of Intent (NOI) was published in the Federal Register on June 17, 2013. The NOI asked for public comment on the proposal by July 17, 2013 (PF-Public-026). Before deciding to document the Como Forest Health project in an EIS, the Bitterroot National Forest scoped the project as an environmental assessment in November 2010 (PF-Public-001). During the scoping comment-

processing period, the project was put on hold to address other Bitterroot National Forest priorities. The Como Forest Health analysis resumed and another scoping process was initiated in February 2013 (PF-Public-007). After reviewing public comments and field validation of the project proposal, the Forest Supervisor decided to document the analysis in an EIS. In addition to these several scoping efforts, a field trip to the project area was scheduled in November 2010 (PF-Public-005). We received from the nine people who attended the field trip, we received comments from 19 other individuals, five organizations, one state agency, a state senator, a state representative, and one business from other scoping efforts(PF-Scoping-041). A news release submitted to the Ravalli Republic February 24th, 2013 circulated to several other news outlets throughout the state and as far away as Indiana.

1.7 Issues

The Interdisciplinary Team separated the comments received during the scoping processes into two groups: significant and insignificant issues. Significant issues were defined as those directly or indirectly caused by implementing the proposed action. These issues were used to formulate alternatives to the proposed action and guide the analysis of effects. Insignificant issues were identified as those: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence. The Council on Environmental Quality (CEQ) NEPA regulations explain this delineation in Sec. 1501.7, "…identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)…". A list of insignificant issues and reasons regarding their categorization as insignificant are in the record (PF-Scope-041. PF-Scope-042).

The following significant issues are analyzed in the Como Forest Health project through the range of alternatives. These issues come from internal discussions and public comments received during scoping:

Do not construct any new roads: The Forest Service received comments suggesting the project be designed such that new roads would not be constructed. The ID Team developed Alternative 3 in which only areas that did not require the construction of new national forest system roads, tracked line-machine trails, or temporary roads would be treated.

Issue Indicator:

- Miles of new national forest system road
- Miles of temporary road
- Miles of tracked line-machine trail

Forest treatments should sustain big-game winter range and other wildlife habitat needs: More than 50 percent of the Como Forest Health project area is MA 2, which has a goal of optimizing elk winter range habitat. Another almost 40 percent of the project area is in MA 3a or 3c which have similar direction to manage big-game winter range within the context of meeting visual quality objectives. Elk (big-game) winter range is described by the following habitat components: forage quality, forage/cover ratio, security, hiding cover, and thermal cover. Many public comments were directed at the effects the proposed project would have on big-game habitat components.

Issue Indicator:

- Areas more than ½ mile from open roads.
- Cover/forage ratio
- Area and distribution of hiding and thermal cover (acres)

- Elk habitat effectiveness (Lyon 1983)

Old-Growth Forest: Forest Plan standards require three percent of Management Area (MA) 1 and eight percent of MAs 2 and 3a, each within a 3rd order drainage be in old-growth forest. In MA 3c the standard is that 8 percent of each separate piece of MA 3c be old growth forest. Each of these MA standards specifies that the area of old growth forest should be 40 acres or larger. Though there are many large diameter trees in the Como Forest Health project area, there are very few units that qualify as old growth forest as defined by Green et al. (1992, errata 2005). Most units that appear to qualify as old growth forest do not have enough trees older than 170 years or diameters-at-breast-height 20 inches or larger. The Forest Plan allows the regeneration of old growth stands when other stands achieve old growth status and sanitation and salvage harvests in old growth forests if old growth characteristics are retained after logging (FP II-20). The Forest Service does not propose to regenerate existing old growth stands in the Como Forest Health project. However, the Forest Service does propose intermediate harvests to conserve old growth characteristics from disturbances such as fire and mountain pine beetle infestations, and create stand conditions that develop old growth attributes. An example of this type of treatments would be thinning around the larger diameter trees to reduce ladder fuels and provide more growing space to enhance tree growth rate and mountain pine beetle resistance. We developed an alternative that does not treat within old growth forest because of the risk that proposed treatments might not preserve all existing old growth characteristics when implemented.

Issue Indicator:

- Areas of treated old growth forest.
- Average age of the old growth stand
- Number of trees greater than 21 inches DBH
- Number of snags/acre 9 inches DBH or greater
- Percent dead or broken top trees
- Number of canopy layers
- Minimum basal area

Maintain Visual Quality: The full range of visual quality objectives (VQO) is present in the Como Forest Health project area from Maximum Modification (MA 1) to Retention (MA 3c). MA 3c is adjacent to the Lake Como road (NFSR 550 and 1111), Lake Como, and Lost Horse road (NFSR 429). Treatments proposed within MAs with retention and partial retention VQOs may not meet the objectives so treatments were either modified or dropped in alternatives to the proposed action.

Issue Indicator:

- Area that does not meet retention VQO.
- Area that does not meet partial retention VQO.

Other significant issues brought up during scoping are addressed through project design or as standard components of the effects analysis that address forest plan or other law, regulation, or policy compliance. One such issue is the 303d listing of Lick Creek for sediment impairment. Logging and road building in RHCAs would not occur as part of the Como Forest Health project. However, log hauling can contribute sediment to Lick Creek at certain points on the haul route. Since Lick Creek is sediment impaired, sedimentation is an issue in this analysis. It is not a key issue because best management practice (BMP) upgrades on haul roads demonstrate that they effectively reduce or prevent sedimentation during log haul. The same BMP upgrades would be applied to all of the action alternatives as mitigation measures so there would be no differences in effects between the alternatives relative to sedimentation.

1.8 Forest Plan Management Areas

The Forest Plan details management direction for Bitterroot National Forest resources by Management Areas (MA). MAs 1, 2, 3a, 3b, and 3c are included in the Como forest Health Project area (Figure 1.8-1). Timber harvest, non-commercial thinning, and prescribed fire are proposed in all of these MAs. MA goals are summarized below and more specific standards and guidelines are in the Forest Plan and cited as appropriate in the resource-specific sections of Chapter 3.

MA 1 (465 acres, 8%): Emphasize timber management, livestock and big game forage production, and access for roaded dispersed recreation activities. Assure minimum levels of visual quality, old growth, and habitat for other wildlife species.

MA 2 (2,934 acres, 52%): Optimize elk winter range habitat using timber management practices. Emphasize access for mineral exploration and roaded dispersed recreation activities. Provide moderate levels of visual quality, old growth, habitat for other wildlife species, and livestock forage.

MA 3a (1,469 acres, 26%): Maintain the partial retention visual quality objective and manage timber. Emphasize roaded dispersed recreation activities, old growth, and big game cover. Provide moderate levels of timber, livestock forage, big game forage, and access for mineral exploration.

MA 3b: Manage riparian areas to maintain water quality and water-related recreation activities. Emphasize water and soil protection, dispersed recreation use, visual quality, and old growth. Provide low levels of timber harvest, livestock forage, and big-game forage on fisheries riparian areas, and moderate levels on non-fisheries riparian areas. Restrict road construction to meet water quality and fish objectives. (MA 3b follows the stream courses and the area varies by stream type and characteristics. The area of MA 3b is not calculated because it varies by stream type and status.)

MA 3c (807 acres, 14%): Maintain the retention visual quality objective and manage timber. Emphasize dispersed recreation activities that will enhance the use of adjacent developed recreation sites and wilderness, and not degrade old growth, big-game cover, and fish. Provide low levels of timber harvest, livestock forage, and big-game forage. Limit road density as necessary to meet visual objectives but provide access, as needed for mineral exploration.

In 2004, the Forest Service purchased 227 acres in the southeast portion of the Como Forest Health project area (section 28 T.4N. R.21W.) in the Como Legacy Fund Purchase. The property has a conservation easement that …

> "assures both traditional uses of private land and the public benefits of America's Forests are protected for future generations. It provides an incentive based mechanism to maintain a working forest, protect important fish and wildlife habitat, conserve watershed functions, and maintain recreation opportunities. The program emphasizes protection of significant forest that can be effectively protected and managed."

Because this parcel of land was not part of the National Forest when the 1987 Forest Plan was developed, there are no designated MAs. Based on the conservation easement direction to "manage in "like" manner", the interdisciplinary team carried the MAs from the adjoining national forest onto the recently acquired lands for the purposes of this analysis (Figure 1.8-1). A Forest Plan amendment is proposed in the following section.

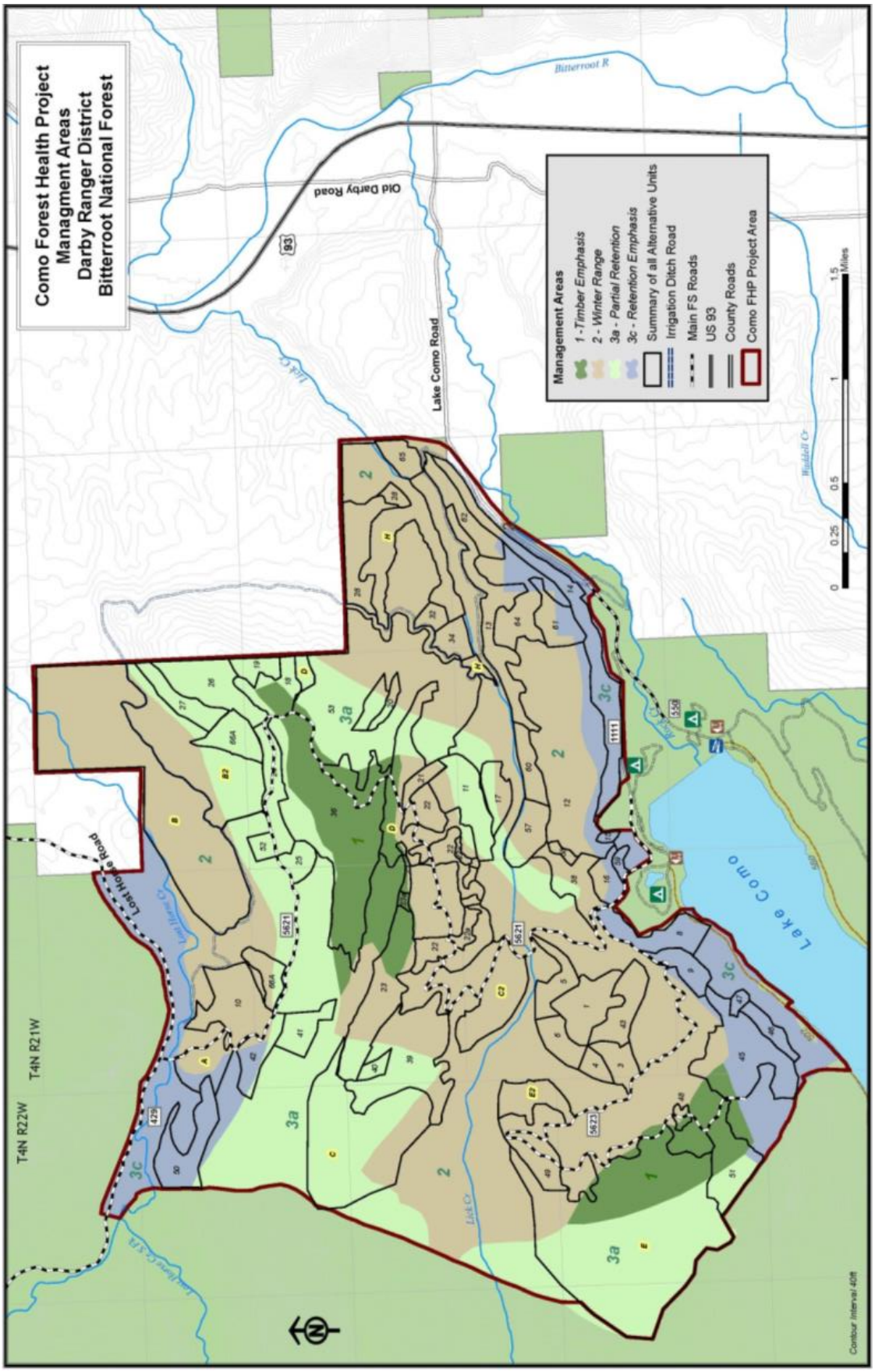

Figure 1.8-1: Management Areas and Proposed Treatment Units in the Como Forest Health Project Area.

The Como Forest Health project area includes 72 acres of the Selway Bitterroot Inventoried Roadless Area. The area in the Selway Bitterroot Inventoried Roadless Area was designated MA 3a in the Forest Plan, which has a visual quality objective of partial retention, managing timber, dispersed recreation, old growth, and big-game and livestock forage. The proposed activity in this portion of the Selway-Bitterroot roadless area is a moderate intensity prescribed fire.

The Como Forest Health project area also includes 0.74 mile of Lost Horse Creek that was determined eligible for study as a scenic river under the Wild and Scenic River system. The section of wild and scenic eligible creek in the project area was designated MA 3c and 2. No activities are proposed within the Lost Horse creek riparian habitat conservation area. However Units 10, 50, A, and the re-route of NFSR 62945 would be adjacent to the lower section of the scenic-eligible study area.

1.9 Site-specific Forest Plan Amendments

Implementing the Como Forest Health project would require site-specific amendments to the Forest Plan (1987) for some or all of the action alternatives. Therefore, the action alternatives include an amendment that would modify the following Forest Plan standards:

- Designating Management Areas to an area that was not part of the National Forest in 1987
- Visual Quality Objectives in Alternatives 2 and 3
- Winter range thermal cover standard in Alternatives 2 and 3
- Coarse woody debris standard

The proposed amendments would only apply to the Como Forest Health Project.

1.9.1 Management Area Designation in Acquired Lands

1.9.1.1 Proposed Management Area Standard

In section 28 T.4N. R.21W. of the Como Forest Health project area, Management areas will be designated as displayed on Figure 1.8-1 and described below:

- MA 2: 150 acres
- MA 3c: 77 acres

1.9.1.2 Discussion

These management areas adjoin the management areas that were designated in 1987 and would insure the area would be "managed in a like manner." These management area designations would continue to manage for big-game winter range, timber, livestock forage, dispersed recreation, and visual quality along travel corridors. They would continue the traditional uses of private land and protect the public benefits of America's forests for future generations.

1.9.2 Visual Quality Objectives

1.9.2.1 Proposed Visual Quality Standard

The visual quality objective standard for Alternative 2 of the Como Forest Health Project would read:

> The visual quality objective in Management area 3c adjacent to NFSR 5621 and in the viewshed of Lake Como will be modification for the next 10 years with treatments in Units 8, 9, 15, 16, 45, 46, and 47 under Alternative 2.

The visual quality objective standard for Alternative 3 of the Como Forest Health Project would read:

> The visual quality objective in Management area 3c in the viewshed of Lake Como will be modification for the next 10 years with treatment in Unit 47 under Alternative 3

1.9.2.2 Discussion

Commercial timber harvest and associated temporary roads and landings in Units 8, 9, 15, 16, 45, 46, and 47 proposed in Alternative 2 would not meet the visual quality objective for retention and would be visible from Lake Como. The proposed treatments decrease long-term scenic integrity but without treatment, mountain pine beetle-caused mortality would increase. Mountain pine beetle-caused mortality would reduce scenic integrity but as a natural component of the ecosystem, the recovery of scenic integrity would be faster. The visual quality objective on these 185 acres visible from Lake Como and the Lake Como Recreation area would decrease two levels to Modification under the proposed treatments.

Commercial timber harvest in Unit 47 under Alternative 3 would reduce the scenic integrity from retention to modification in this five acre unit. Though units 8, 9, 15, and 45 would be treated under this alternative, Units 8 and 15 are non-commercial thin units that would block the visibility of commercial treatments in Units 9 and 45. No temporary roads would be built under Alternative 3 and the landing for Unit 47 would be screened by terrain or untreated units.

1.9.3 Winter Range Thermal Cover

1.9.3.1 Proposed Thermal Cover Standard

The thermal cover standard for winter range in Alternatives 2 and 3 of the Como Forest Health project area would read:

> Thermal cover on winter range will be treated to the level needed to protect the overstory from loss due to fire in the Como Forest Health project area.

1.9.3.2 Discussion

The proposed site-specific amendment recognizes and addresses the conflicting nature of the Forest Plan fuels and fire protection goals, objectives, and standards for the WUI and the overlapping winter range thermal cover standard defined in the Forest Plan Record of Decision (1987, pg. 8). Research conducted since the Forest Plan was signed questions the necessity of thermal cover for survival of wintering elk (Cook, et al. 1998). Researchers found "no significant, positive effect of thermal cover on the condition of elk during any of the six experiments. In contrast, dense cover provided a costly energetic environment, resulting in significantly greater over-winter mass loss, fat catabolism, and (in one winter) mortality." Wintering elk survived and retained body weight better in open areas than in thermal cover. For this reason, whether thermal cover is necessary for individual elk survival or elk population viability seems open to question (3.3.12.3 Thermal and Hiding Cover in Elk Winter Range).

1.9.4 Coarse Woody Debris

1.9.4.1 Proposed Coarse Woody Debris Standard

The site-specific coarse woody debris standard to be applied to the Como Forest Health project on all treated units would read:

> To maintain soil productivity and wildlife habitat while meeting the purpose and need of fuel reduction, coarse woody debris (material greater than three inches in diameter) will be left from designated leave trees, snags, logs, and breakage of limbs

and tree tops that occur during harvest at or above the minimum levels identified below. Material will be evenly distributed on each acre. Minimum levels will also be retained after prescribed fire treatments.

Proposed Coarse Woody Debris Standard by Fire Group:

Fire Group	Coarse Woody Debris Level
Warm, dry ponderosa pine and Douglas fir (FG 2, 4)	5-10 tons/acre
Cool, dry or moist Douglas-fir (FG 5, 6)	10-20 tons/acre
Cool sites usually dominated by lodgepole pine or dry, lower subalpine (FG 7), or moist, lower subalpine (FG 9)	8-24 tons/acre

Wood larger than 15 inches in diameter will not be intentionally ignited during hand lighting. It is understood that once the fire is lit by hand crews, the fire may burn into large coarse woody debris and combust various pieces.

1.9.4.2 Discussion

Since the Forest Plan was signed, research indicates the amount of coarse woody debris varies by habitat type (Graham et al. 1994; Brown et al. 2000). Current research provides guidelines that are more refined to meet the Forest Plan goals and objectives. The amounts prescribed in the Forest Plan are sometimes contradictory (i.e. 10 to 15 tons) with the amounts recommended by Graham et al. (1994) and Brown et al. (2000) and may require fuel loads that are too high for low elevation, dry ponderosa pine sites. Heavy amounts of coarse woody debris increase the potential fire intensity (flame length and rate of spread). High amounts of coarse woody debris should not be left in stands of the Como Forest Health project area unless required for site specific soil rehabilitation treatments